

References

1. Kawaji T, Kato M, Yokomatsu T. How to release PentaRay catheter entrapped in the hinge point of mechanical mitral valve? *Europace* 2020;**22**:204.
2. Johnson & Johnson Medical Devices Electronic Instructions for Use. <https://e-ifu.com> (3 March 2020, date last accessed).

Vincent C. Thomas* and Qun Sha

Biosense Webster, Johnson & Johnson, 31 Technology Drive Suite 200, Irvine, CA 92618, USA

*Corresponding author. Tel: 949 237 0889.

E-mail address: vthoma17@its.jnj.com

doi:10.1093/europace/euaa113

Published online 13 July 2020

Pentaray contraindicated for use with mechanical valves: Authors' reply

We thank Dr Thomas for commenting on our recent case report,¹ which described PentaRay mapping catheter (Biosense Webster, Inc., Diamond Bar, CA, USA) entrapped in mechanical mitral valve and find ways to handle the trouble. He emphasized the contraindication for PentaRay use in patients with mechanical valves.²

PentaRay mapping catheter is a star-shaped multielectrode with five soft and flexible spines. It can fit rough surface to precisely perform contact mapping, but it is easily entrapped in gaps at the same time and induce embolism of detached spine tips.^{1,3,4} Therefore, we should not use PentaRay in patients with mechanical valves as the Instructions For Use demonstrated.⁵ In our case report, we reluctantly used PentaRay for complex atrial tachycardia originated from left atrium with mechanical valve. We carefully handle PentaRay mapping catheter, but radiolucent mechanical mitral valve entrapped the spine tips of the catheter in the hinge point. We fortunately retrieved the catheter without critical embolism and surgical intervention, but we should not have used PentaRay in such cases. In addition, simple *in vitro* verification revealed the mechanism of the entrapment of PentaRay in mechanical valve and manoeuvre to release the entrapment, but it did not prove the safety of PentaRay use in mechanical valve. Again, PentaRay is contraindicated for use in mechanical valve. Through our case report, we want the readers to re-realize the risk of PentaRay use in mechanical valve and to know the mechanism of the entrapment, just in case.

Conflict of interest: none declared.

References

1. Kawaji T, Kato M, Yokomatsu T. How to release PentaRay catheter entrapped in the hinge point of mechanical mitral valve? *Europace* 2019;**22**:204.
2. Thomas V, Sha Q. Pentaray contraindicated for use with mechanical valves. *Europace* 2020;**22**:1444–5.
3. Mehta D, Love B. Successful transcatheter removal of entrapped ablation catheter in mitral valve prosthesis. *Heart Rhythm* 2007;**4**:956–958.
4. Sheldon SH, Good E. Pentaray entrapment in a mechanical mitral valve during catheter ablation of atrial fibrillation. *HeartRhythm Case Rep* 2016;**2**:200–201.
5. Johnson & Johnson Medical Devices Electronic Instructions for Use. <https://e-ifu.com> (27 April 2020, date last accessed).

Tetsuma Kawaji ^{1,2*}, Masashi Kato¹, and Takafumi Yokomatsu¹

¹Department of Cardiology, Mitsubishi Kyoto Hospital, 1 Katsura Goshō-cho, Nishikyo-ku, Kyoto 615-8087 Japan; and ²Department of Cardiovascular Medicine, Graduate School of Medicine, Kyoto University, Kyoto, Japan
*Corresponding author. Tel: +81-75-381-2111; fax: +81-75-392-7952.

E-mail address: kawaji@kuhp.kyoto-u.ac.jp